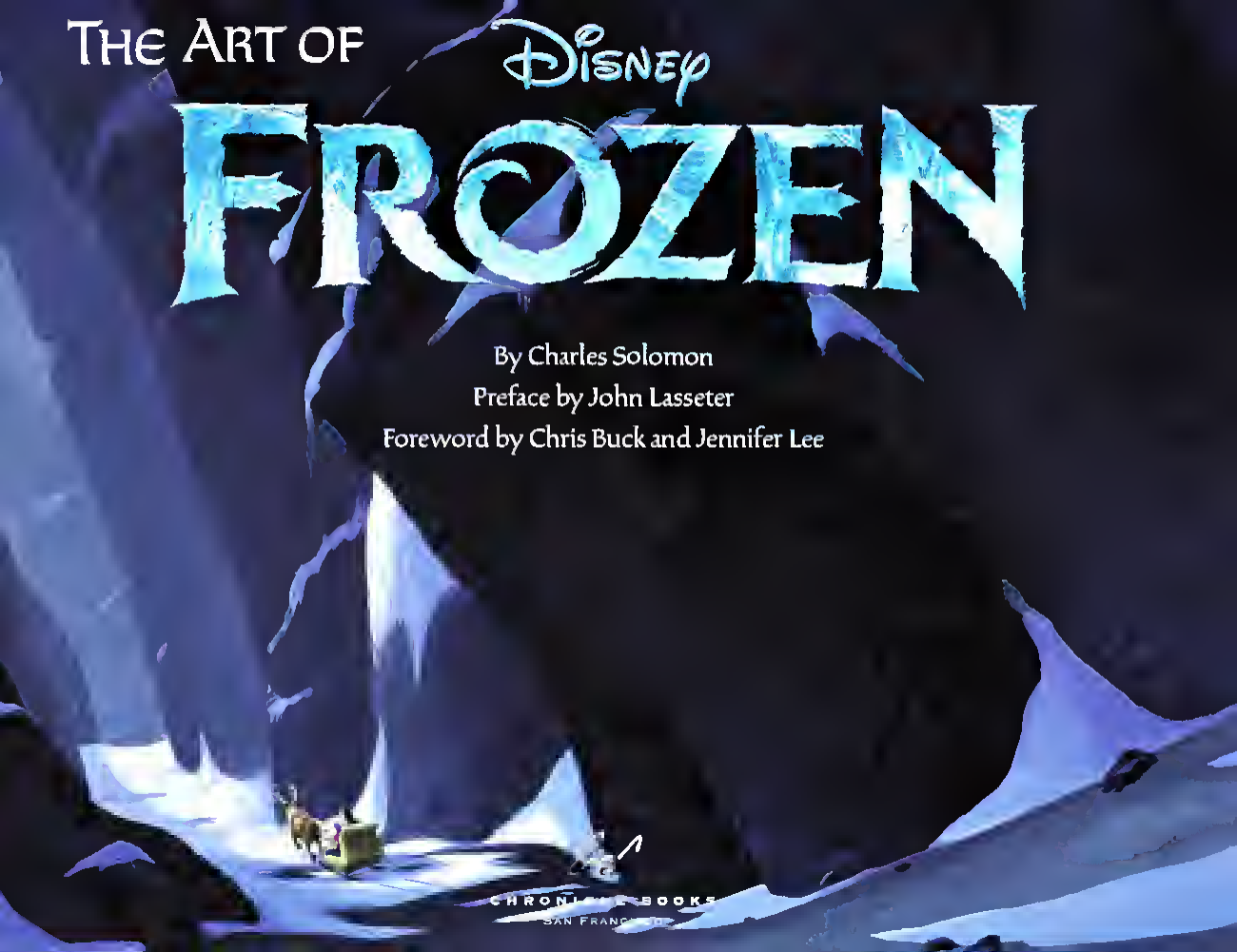
The Art of Disney Frozen

By Charles Solomon
Preface by John Lasseter
Foreword by Chris Buck and Jennifer Lee



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PREFACE

Back when Pixar was making *Toy Story*, we traveled down to the Disney Animation Studios regularly for meetings, and I remember being blown away by preproduction artwork for a potential film called *The Snow Queen*. There was one painting in particular by Paul Felix of the Snow Queen, riding in a sleigh through this landscape of gigantic snowflakes. At the time, the studio was concerned that contemporary audiences were not interested in sincere fairytales. But, simply put, at the center of every Magic Kingdom is a castle. Fairytales are such a part of what Disney Animation is. I always felt there was a way to tell these heartfelt stories for a modern audience. I'm so pleased that *Princess and the Frog* and *Tangled* have proven that people everywhere still love them.

When I came back to run the Disney Animation Studios, those beautiful images were always in the back of my head as a possible movie. But since we are a filmmaker-driven studio, it would take a filmmaking team to want to make it. Then Ed Catmull and I brought director Chris Buck back into the studio. Chris, like me, is steeped in all things Disney. He got very excited about directing a fairytale musical based on "The Snow Queen" and pitched the project as one of his three ideas.

The story proved very difficult to develop. The original fairytale is a very episodic adventure about two young kids. But Chris and his story team had a breakthrough when they decided to make their heroine, Anna, sisters with the Snow Queen Elsa. Chris then brought together the songwriters Bobby and Kristin Lopez with Jenn Lee, who co-wrote *Wreck-It Ralph*. Bobby and Kristin's brilliant songs really helped define the film's modern yet sincere tone. And Jenn, who agreed to join Chris as director, had a great take on this world full of magic, and mysterious trolls. Together, they evolved the fairytale into a unique story about two sisters that is so different from any other fairytale that Disney has ever done.

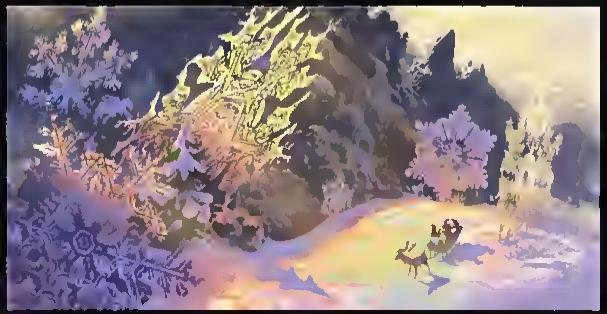
To direct the art of the film, Chris was clear from the beginning that he wanted Michael Giaimo. Mike went to CalArts, along with Chris and me. His graphic sense of design is just phenomenal, and his use of color has always been innovative. But he had never worked in computer animation, so I was very excited to see how he would take on the medium.

First, Mike and his visual development team went on an unbelievable research trip to Norway, where they got inspiration for the architecture and costumes of this world. Mike was very taken by the dramatic spires of Norway's stave churches as well as heavier, medieval fortified structures. He combined the architecture of both to come up with a very original castle. There, he also discovered rosemaling, a folk art technique of painting and embroidery. Mike incorporated this decorative art into the castle interior and costumes, but with new patterns and color choices. So while this detailing is grounded in tradition, it is clearly Mike's new interpretation.

Of course, this film required the creation of many different frozen environments—all of which needed to be believable—and others, created by Elsa herself, which also needed to be truly magical. I knew this was a design challenge in which Mike's talent would truly shine. Early on, Mike put Elsa, once she is the Snow Queen, in this stunning ice cape made out of ice. That cape set the bar very high for a design sensibility, particularly for Elsa's world, that was very beautiful, but also very modern. And I'll never forget the day that Mike and his team found inspiration for Elsa to build her own ice palace throne room in nature itself—based on the six-sided structure of a snowflake. And finally, Mike has taken inspiration from the prism effect of ice to bring into this snowy world an incredibly rich color palette, making the landscape of *Frozen* truly something we have never seen before.

Throughout *Frozen*'s design process, the artists have struck a balance between classic and current, details that are grounded in tradition and yet fantastic. This book is a showcase for their breathtaking work.

—John Lasseter

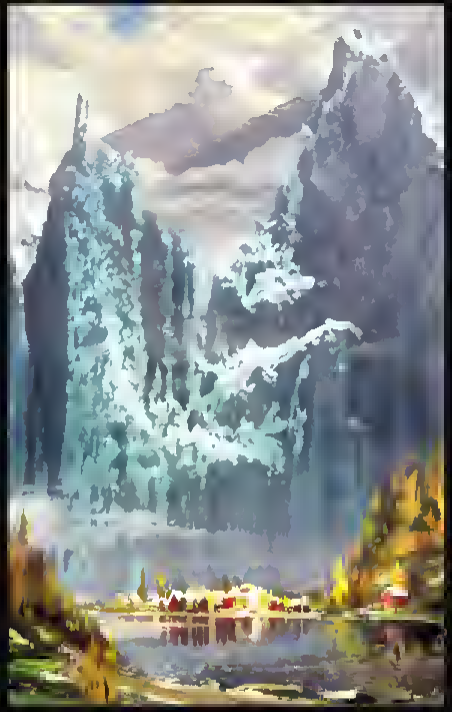


FOREWORD

When our art director Michael Giaimo first read the script for *Frozen*, his immediate reaction was, "This is a big movie." From a story perspective, that's what we were going for, but at the time we were so focused on the details that we hadn't yet grasped the visual challenges that such a "big movie" brought. Luckily, from the very beginning, Mike had a strong sense of what it would take to bring this epic landscape to life, and thankfully, he was inspired by the undertaking.

For example, we've got more than our fair share of snow in this film. But thanks to Mike and our visual development team, there is so much more color than anyone could have imagined. White, as Mike says, is a blank canvas upon which to build. From the warm peach and yellow tones at sunrise, the deep pinks and blues cast at sunset, to the rich indigos and purples caught in the moonlight, no scene suffers from a lack of color. And then there are the costumes, inspired by the rich, colorful Scandinavian brands with their thick fabrics and rosemaling designs. The sisters both wear several gorgeous gowns. Elsa even wears one made of ice. But one of the most fun design challenges was working with the team to come up with the outfit for our ice-harvesting, mountain man, Kristoff. The design of his heavy tunic, pants, and shoes grew out of researching the Sami people, an ancient, indigenous group that still lives in the arctic area.

All of the research on this film helped us not only find the details of this world but also the spirit of this story. The visual development team went to Norway, and a group of us also went to Quebec City to see the ice hotel, a giant palace built entirely out of ice every year. (John Lasseter insisted we stay there, but we didn't. Those icy beds, while beautiful, didn't look so comfortable!) We timed our visit to coincide with Quebec's winter carnival, a two-week festival with dogsled races, parades, and amazing snow sculptures. The whole community was out on the streets in the middle of February. What really struck us was how the cold weather didn't stop the people from living their lives outside. In fact, the weather brought the whole city together to celebrate the cold. That experience inspired us to make sure that *Frozen* celebrates winter overall.



Lisa Keene | Digital

Mike was right. The scope of this film was a big undertaking. Alone, it would have felt daunting. But our amazing crew all helped us, character by character, set by set, and costume by costume, to pull off the seemingly impossible. We wanted the look of this film to be so unique and special that one could pull any frame and know it could only have come from *Frozen*. Thanks to Mike and all the artists, we might just have done it. We are very excited that we have the chance in this book to show off their beautiful work.

—Chris Buck and Jennifer Lee

INTRODUCTION

FROM "THE SNOW QUEEN" TO *FROZEN*

The fairy tale of film—created with the magic of animation—is the modern equivalent of the great parables of the Middle Ages. Creation is the word. Not adaptation. Not version. We can translate the ancient fairy tale into its modern equivalent without losing the lovely patina of its once-upon-a-time quality . . . We have proved that the age-old entertainment based on the classic fairy tale recognizes no young, no old.
—Walt Disney

Walt Disney may well have felt a personal bond with Hans Christian Andersen. Both men rose from humble backgrounds to attain wealth and international fame as storytellers. Both men produced remarkable bodies of work that speak to children and adults alike.

During the '30s and early '40s, artists at the Disney Studio explored the possibilities of animating many of Andersen's fairy tales. *The Ugly Duckling* (1931) was one of the studio's first efforts to imbue a cartoon character with serious emotions. Warner Bros. director Chuck Jones praised Disney's second, Oscar-winning adaptation of *The Ugly Duckling* (1939) as "one of the best short subjects ever made." Artists also developed versions of "The Emperor's New Clothes," "The Emperor's Nightingale," "Through the Picture Frame," "The Little Fir Tree," "The Steadfast Tin Soldier," "The Little Mermaid," and "The Snow Queen."

In April, 1938, researcher Mary Goodrich presented a synopsis of "The Snow Quean," listing its basic theme as "reganeration through faith." Two years later, in a highly detailed, somewhat rambling discussion, Norwegian-born researcher Kari Berggrav complained, "This story rounds off everything nicely and ties up loose ends, but it is very uninteresting and just fades out into nothing, or worse than nothing, banality. It is hard to make good animation out of it."

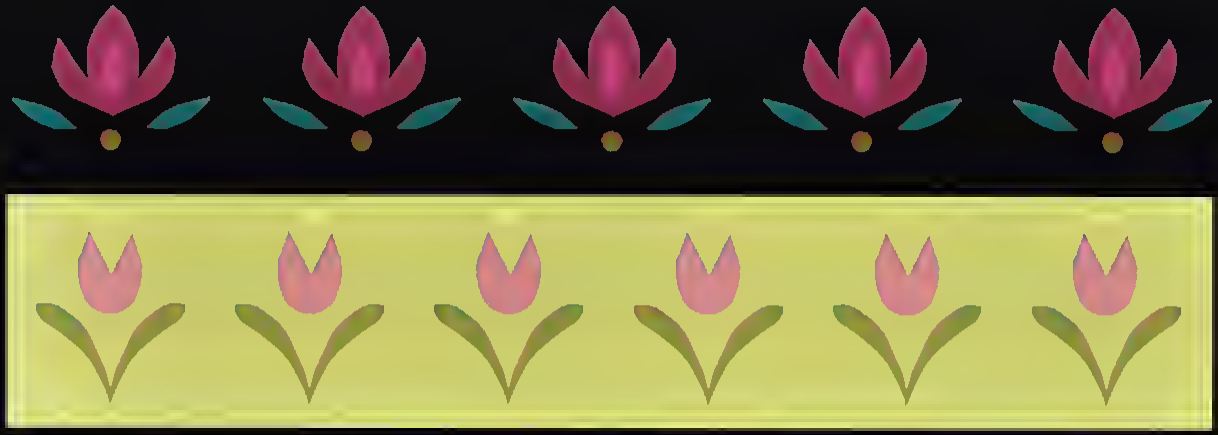
Much of this research was done for a proposed live action/animation biography of Andersen. Discussions about either a biographical film or a feature-length collection of Andersen's fairy tales began in late 1937, shortly before *Snow White and the Seven Dwarfs* was released. Samuel Goldwyn was also interested in Andersen's life, and in March 1940, Walt Disney suggested a co-production, with his studio animating the fairy tales and Goldwyn providing the live action sequences. Development continued into 1942, but the project was shelved when Disney became too busy producing military training films, educational shorts for the Office of Inter-American Affairs and was never made.

A new generation of Disney artists revisited Andersen's stories decades later. John Musker and Ron Clements transformed the "The Little Mermaid" into an upbeat musical that signaled the renaissance of Disney animation in 1989. A version of "The Steadfast Tin Soldier" was included in *Fantasia 2000*, and *Lion King* director Roger Allers adapted "The Little Match Girl" into a short in 2006.

Initially published in 1845, "The Snow Queen" is one of Andersen's longest tales, although he wrote it in just five days. When the magic mirror created by an evil troll shatters, shards lodge in the eye and heart of a little boy named Kai. They make him forget his best friend, Gerda, and fly away with the icily beautiful Snow Queen. Gerda embarks on a long and perilous journey to the remote palace: Her kisses melt the mirror-shards, freeing Kai from the Queen's spell and enabling him to return home with his beloved friend.

Although "The Snow Quean" has been highly praised by critics and scholars, it is a protracted, episodic, and rather bleak tale. Yet Andersen's vision of an elegant quean ruling over a frozen kingdom captured the imagination of such great illustrators as Edmund DuLac, Arthur Rackham and Kay Nielsen. Lev Atamanov directed a heavily rotoscoped animated feature in the USSR in 1957, which was released in the United States two years later with the voices of Sandra Dee and Tommy Kirk.

Notes, drafts, and sketches for several versions of "The Snow Queen" created between 2000 and 2002 have been preserved in the Disney Studios Animation Research Library. All of them discard the troll and the mirror, requiring the film-makers to find a motive for Kai to leave. In one version set in Iceland, he goes to sea on a whaling ship to impress Erica (Gerda), and the title character rides away on an orca. In other treatments, the artists experimented with comic side characters



Brittney Lee | Digital

(polar bears, owls, penguins, walruses, snowmen) and considered various curses and spells that would somehow bring Kai to the Queen. In one very strange outline, Gerda becomes Greta, a devious gold digger, and Kai marries the Snow Queen.

Much of the artwork for these versions is strikingly diverse and often beautiful. But no one found a way to turn the minimally defined characters and episodic plot into a compelling narrative.

"The Snow Queen" began its metamorphosis into *Frozen* when Disney/Pixar chief creative officer John Lasseter contacted his friend Chris Buck about returning to the studio. Buck had been working at Sony, where he'd recently directed *Surf's Up* (2007). "I pitched several ideas to John, and 'The Snow Queen' was one that he'd been interested in for a while," says Buck. "I pitched a musical version of it that he seemed excited by. So we started developing that project. This was back in 2008, around September"

The filmmakers agree the key to the creation of *Frozen* was the decision to abandon Andersen's focus on Gerda's epic journey and keep only the distant, beautiful Queen of the title. "We made it a cleaner journey, as opposed to being as episodic as the book," says Buck. "We basically made our own: our leads are now adults; in the book it's two children."

"It wasn't until we came up with the idea that the heroine and villain were sisters with a shared past that we unlocked a story," adds producer Peter Del Vecho. "We did a version where the Snow Queen was the villain, but we wanted to end with them reunited, and it was very hard to redeem her at the end. We decided on an adventure about two people who initially misunderstand each other; it allows for the bonding at the end."

"When I was brought on, they had already moved away from 'The Snow Queen,'" continues director Jennifer Lee. "I had given notes and comments during the development process, so I knew the plot was shifting. At the heart of the new story were the sisters: There was something very interesting about the idea of one sister who has a superpower—or an affliction—and one who's ignored because her sister's taking up all the energy in the room."

"It's extremely challenging to make traditional fairy tales work as three-act feature films, and make them believable for today's audiences," concludes Lasseter. "We looked at the story and chose some elements, then put it away and started developing a story we wanted to tell. So it's really an original story loosely based on 'The Snow Queen.'"

PROLOGUE

A FAMILY AFFAIR

In story, you have to open yourself up emotionally in a way most jobs don't ask you to. You pull from your life experiences—all your jokes and the things that hurt—and put them into a scene. You've got to believe in it and you've got to sell it. You have to hear other points of view and take them seriously. That separates story artists from other people—we have to be able to survive that.
—Chris Williams, story artist

As small children Elsa and Anna, the princesses of Arendelle, were loving sisters. They played together under the watchful eyes of their royal parents until the day Elsa accidentally hurt her sister with her power to create ice and cold. The King and Queen forbade Elsa to see Anna, and the life the girls had shared became a series of closed doors—doors they both wanted to open.

Elsa knew they had been separated to protect Anna, but Anna didn't understand why her sister said no whenever she suggested doing something together. After the deaths of their parents, the sisters grew further apart.

The artists agree that the key to "cracking" the story was the decision to focus on the bond between Anna and Elsa. Instead of a standard princess finding her prince story, the film became an exploration of the special bond sisters share, a bond that can transcend years of separation and misunderstanding. Except for *Lilo and Stitch* (2002), stories about sisters are rare in American animation. Ariel in *The Little Mermaid* and Merida in *Brave* have little interaction with their siblings.

Jean Gillimore | Pen

Claire Keane | Pen

"At first, I didn't want to work on a princess movie," says head of story Paul Briggs. "But once I got into it, I saw, 'This isn't a princess movie, this is a sibling story.' And I know sisters. I have four. Every movie goes through stages where it tells you what it wants to be. Once you find it, things become clear, and the characters start clicking."

"Elsa was going to be the complete antagonist," explains director Jennifer Lee. "They kept calling her the 'villain.' But there came a point where we said, 'We can't use that word anymore.' You care about someone who's been forced to hide who they are. Elsa's not a villain, she just makes some bad choices because she's in a very difficult situation.

"John Lasseter always says you have to understand why every character does what they do, whether they're bad guys or good guys," she continues. "You have to understand their philosophy, even if you don't believe in it. Elsa became more the yin to Anna's yang, as opposed to the bad guy. It's richer, and their relationship is more interesting."

To gain a better understanding of their relationship, the Disney artists held what they called the Sister Summit. "I grew up with one sister, but I only have boys, and Chris Buck only has sons," says chief creative officer of Pixar and Disney Feature Animation John Lasseter. "It was really important to be authentic. So we brought together women from all over Disney animation who grew up with sisters, and they start talking about their relationships. It was fascinating."

"We'd talk about classic fairy tales and princess movies, but those stories are dominated by this sense of romance; no one's focused on the relationship between siblings in them," says Lee. "They brought all of us who have sisters into a room and we shared the real conflict, real angst, and real heart. We had a lot of fun exploring what sisters do—from fighting over clothes to deeper issues like watching your sister struggle and not knowing how to help."

"We didn't want the boy to drive Anna and Elsa apart or save the day," she adds. "It's about the two sisters saving each other, it's their broken relationship, and how they repair it."

A strong story will carry weak animation, but the most polished animation can't save a weak story. Artists who worked on beloved films, from *Snow White and the Seven Dwarfs* to *The Iron Giant*, complain about technical flaws audiences don't notice because they're involved with the characters. Crafting a solid story is a demanding process that requires thousands of drawings and tens of thousands of words.

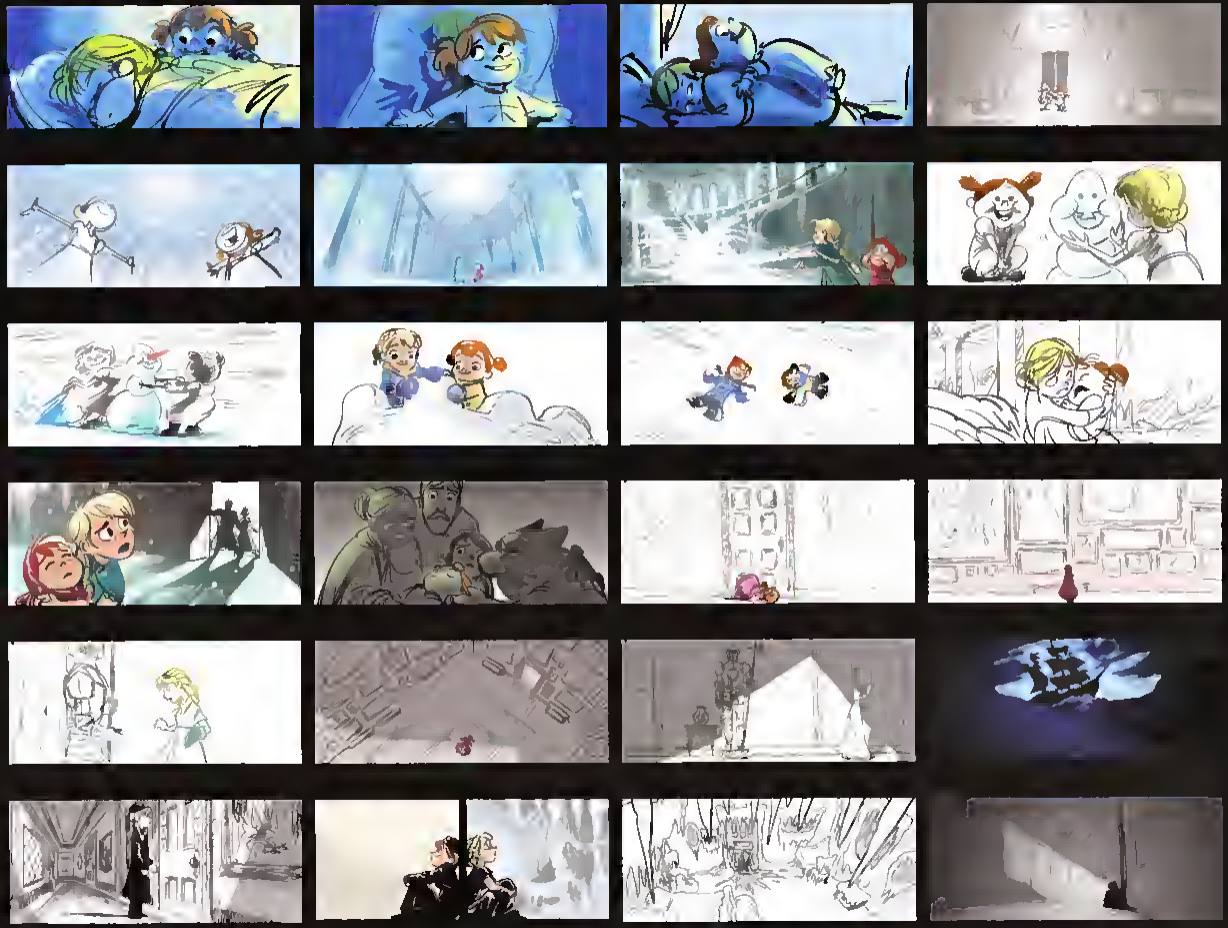
"When John took over as the chief creative officer of the studio, he brought a lot of experience from Pixar that he wanted to instill in us. He took us to Pixar to watch the 'Brain Trust' in action," explains producer Peter Del Vecho, referring to the group of filmmakers at Pixar who review pitches and films in progress. "Although they're brutal in the notes sessions, there's a sense that it's all to make the film better. Everyone remains friends, though the discussions can get quite heated. We speak up when we think something can be stronger."

"We recently came out of a retreat for *Frozen*," Del Vecho continues. "We had a number of directors and John and Ed Catmull there, trying to make the movie as strong as it can be. It was great, but it's a very difficult process. The first day is taking the engine out of the car and laying all the pieces out in the driveway. 'Oh my God, how are we ever going to get it back together?' But the second day, you reconstruct it, and it's better than when you started."

101 Dalmations (1961) was the first Disney animated feature to begin as a screenplay, written by Bill Peet. Since then, more and more animated films have had screenplays. "I come from a writing background," says Lee. "The story artists use images and I use words, but we're both seeing the scene in our heads. For me, the best thing to do is to write it, even if it's rough—board it, look at it, and then build off it."

Storytelling is pretty much the same regardless of the medium, but the amount of multidiscipline collaboration needed on a CG movie is greater. There are more people involved in each decision, because we have people dealing with hair and cloth and lighting. Any one decision can impact something you didn't realize could be impacted.
—Peter Del Vecho, producer

Sequence 2.0 – Meet Anna and Elsa



Paul Briggs, Steve Anderson, Chris Williams, Normand Lamay, Faun Veerasunthorn | Digital

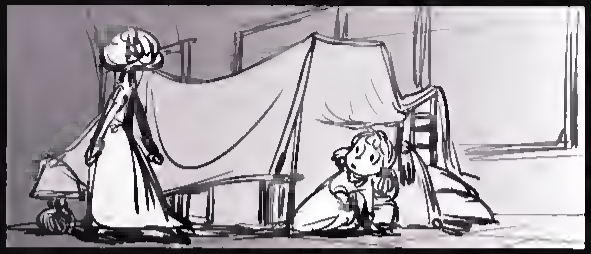
Story artist Jeff Ranjo explains: "Before we start boarding, the writer may take a pass. We'll read that first pass with the whole story crew in the room and throw in ideas. The second pass will be the first for the artist, who'll take the best ideas and run with them. We're here to help put the director's vision up there, and lend our personal taste to it."

"Generally, everybody gets one sequence; a lot of times it's issued on Monday or Tuesday, and you try to show something by Friday," adds story artist John Ripa. "You spend the week working on your sequence, then we all come together and pitch. People tend to get typecast. I get a lot of drama, subtle acting, or big action. I don't get a lot of comedy. I come in every Monday, 'I hope I get a comedy sequence!' And they say, 'Here—the character has died!'"

As they struggle to turn words and ideas into images, the artists draw on personal experiences, striving to get the maximum emotional and visual power into their boards, which will be drawn, pitched, discussed, and redrawn many times. Chris Williams reflects: "Most of the other disciplines are more of a craft. They're things you can learn and develop over time. In story, you're asked to give so much of what you are personally."

Because the story artists work so closely together, they share an obvious bond. They bounce off each others' words and riff on each others' ideas.

"The first time you pitch something or voice your opinion is very nerve-racking," says story artist Normand Lemay. "But knowing everyone will be as nervous when they're pitching their sequence is comforting. You need that safe room environment. That doesn't mean that we accept everything. If it's not funny, we won't laugh. But we'll applaud the effort."

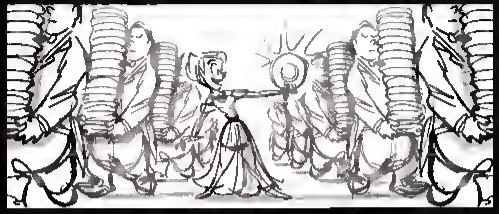


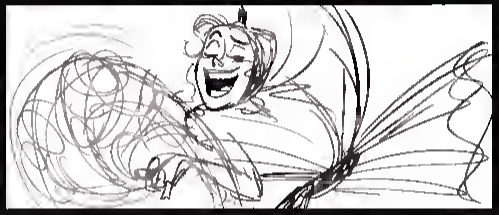
Normand Lemay | Digital

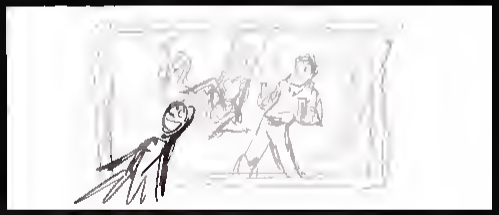
Paul Briggs | Digital

Back in the old days on paper, you could get away with fewer sketches. When you're doing it digitally, everything has to be up on the screen. You put more poses in to make it more like an animatic. It has to play on the screen, it has to move, and it has to cut well.
—Jeff Ranjo, story artist

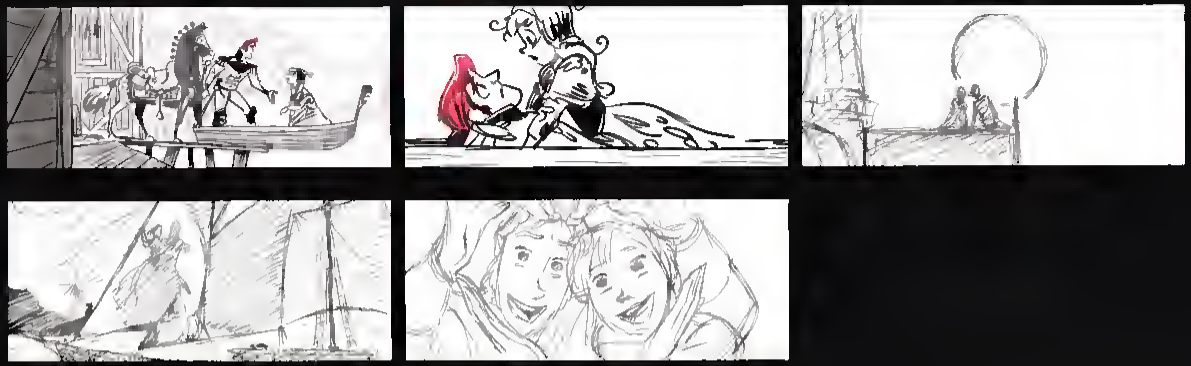
Sequence 4.5 — "I Want" Song







Sequence 5.0 — Meet Hans



Chris Williams, John Ripa | Digital

"When you think about the story, you pull from your life experiences, you put that in front of everybody, and talk about it," adds story artist Fawn Veerasunthorn. "You feel very vulnerable."

"You really feel vulnerable," agrees Ranjo. "We put this stuff up there, then everybody tears it down. It's all professional. Nobody's attacking you. Everybody wants to make the strongest film they can. The more input you get, the more you tear it down and build it back up, the stronger it gets. That's story."

The story artists may feel vulnerable when they're pitching boards, but they agree nothing is more satisfying than a lively story session, when the crew is hitting the correct beats and "plussing" ideas. Head of story Paul Briggs says, "It's so much fun to be in those meetings where John Lassater becomes just another one of the story guys. When he gets really excited, and everybody's just as excited and attacking the story, those are the absolute best days to work here.

In recent years, American animated films have grown increasingly talky, with sitcom one-liners replacing the minimal dialogue of earlier films. Yet the artists speak with greatest admiration of the classic Disney features and the work of Hayao Miyazaki, both of which convey complex emotions without words.

"I've heard it often said in the story room that people remember things more if you do it visually than just words," says Ripa. "Words sometimes go in one ear and out the other. But when audiences see it, they experience it. It connects; it lands. We have the freedom to pull back on dialogue if we can find a way to do it visually."

"You hear that mantra constantly: 'Can we do it without dialogue?'" agrees Williams. "But we don't always listen to our own advice. The story reels tend to want dialogue, but the animation tends to not want it. That's one of Lassater's gifts: he can see the finished movie in his head when he's looking at the story reels. So some of those moments survive."

Devised at the Walt Disney Studio in 1933, the storyboard consisted of drawings and captions pinned to large sheets of corkboard. An artist would present his boards, explaining or performing the characters' actions, and some individuals were known as "great presenters." In recent years, story artists have begun scanning their drawings into a computer and presenting them in sequence as mini-movies.

"Pitching a storyboard is an art form unto itself," says Lasseter. "Joe Ranft was the master at it. But so much of what was working was really Joe's performance. When you got into the story reel, you'd start seeing things that weren't quite

working, and you'd have to refine it. These digital tools help us get to how a sequence is working in the movie faster. They've elevated the quality of our story reels and helped us understand how the story is working more quickly."

Now that the majority of story artists draw on computers, it makes sending material to editorial that much easier.

"We create the entire movie in rough form before a single frame of animation is done," says lead editor Jeff Draheim. "We work from the very beginning with the story crew putting together rough storyboards and temp sound effects, temp music, scratch dialogue, just to see how it plays."

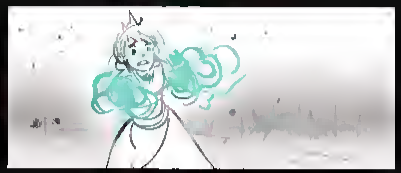
The editor and the story crew have to work closely together as the film goes through its many permutations and refinements. "I've been with Disney for eighteen years and know all the board artists on this show," Draheim continues. "If I come to them and say, 'It would be great if I could go to a wide shot before we cut to the close-up,' they trust me enough to say, 'No problem.'"

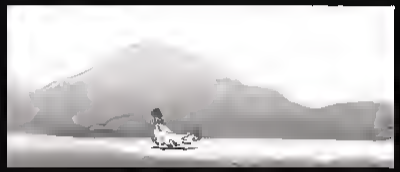
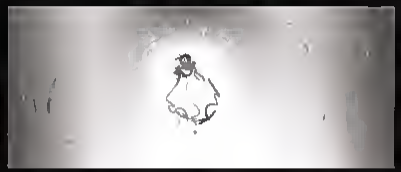
As the development of the story progresses, the artists work to make the fairy tale elements feel magical yet believable and appealing to modern viewers. "I think they did a good job of making *Tangled* feel contemporary," Buck concludes, speaking of the 2010 Disney animation that took off from the "Rapunzel" story. "Our goal is to give the story a contemporary sense when it comes to who the characters are. Fairy tales are such wonderful stories; they speak to any generation."

Sequence 8.0 — Sisters Split

Fawn Veerasunthorn, John Ripa | Digital

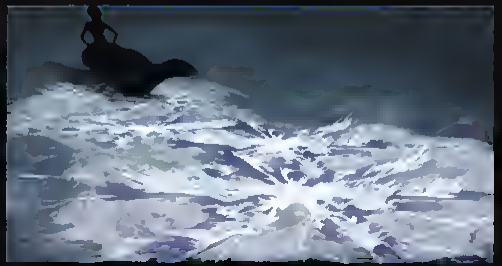
Sequence 10.0 — Elsa's Song



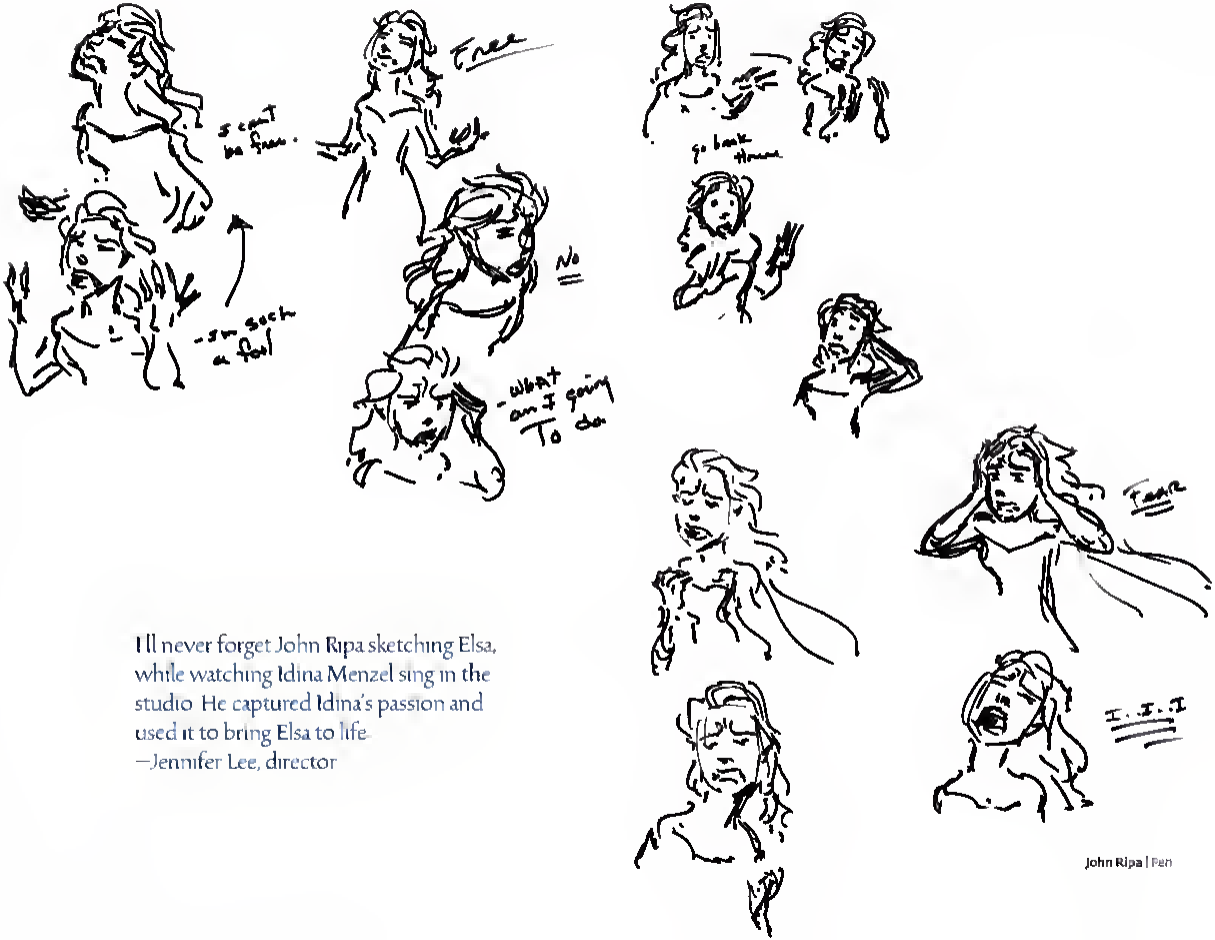
Paul Briggs | Digital

Dan Lund | Digital



Sequence 10.0 continued

Dean Wellins | Digital



I'll never forget John Ripa sketching Elsa, while watching Idina Menzel sing in the studio. He captured Idina's passion and used it to bring Elsa to life.
—Jennifer Lee, director

John Ripa | Pen

Sequence 11.0 — Meet Kristoff

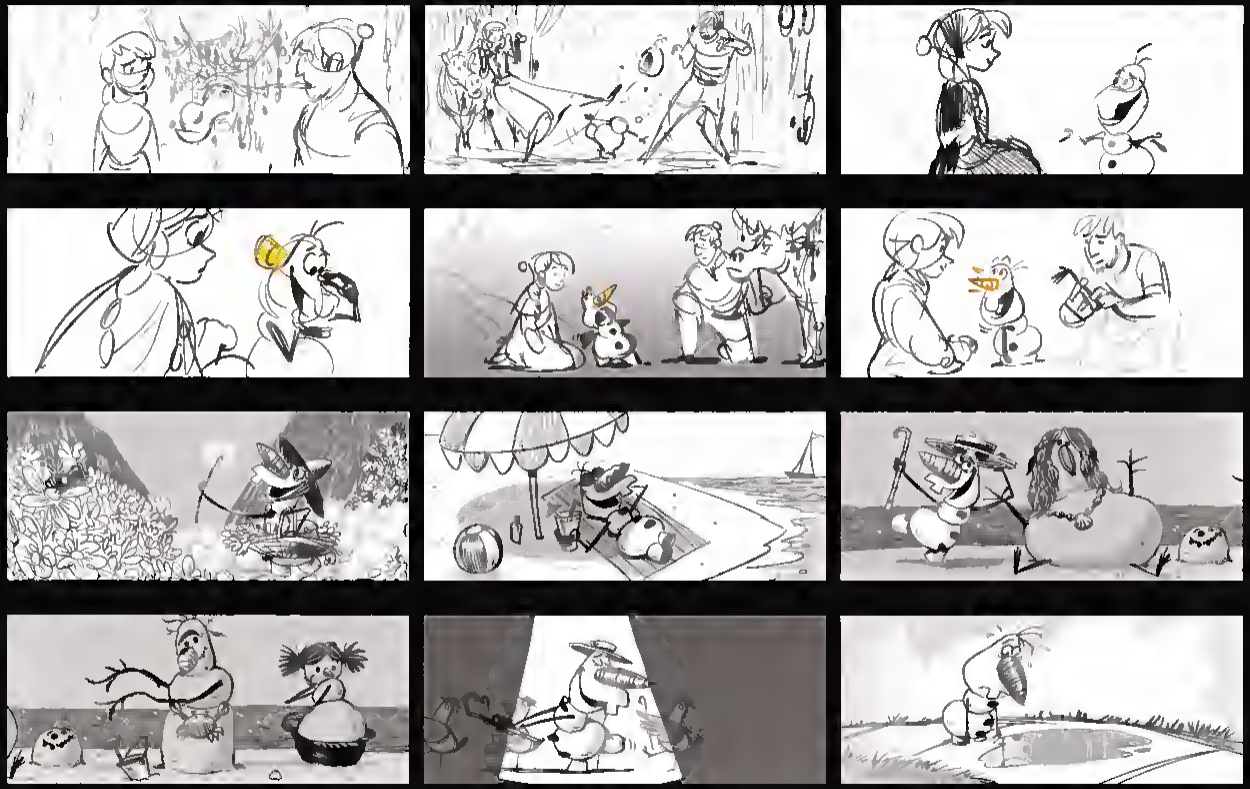
Chris Williams | Digital

What's interesting for me as a woman coming in is, I was never treated like a woman coming in. The culture and storytelling are opening up: Women characters can be stronger and feistier and drive things. Disney's really embracing it, particularly John. I'm happy to be part of it.
—Jennifer Lee, director

Sequence 16.0 — Mountain Travel

Normand Lemay | Digital

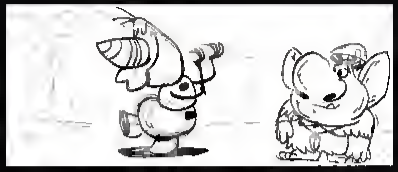
Sequence 16.5 — Meet Olaf

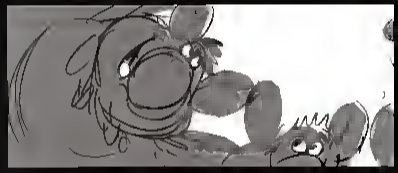


Paul Briggs, Jeff Ranjo | Digital

Sequence 00.0 — Frozen Heart

Sequence 25.0 – Trolls' Song





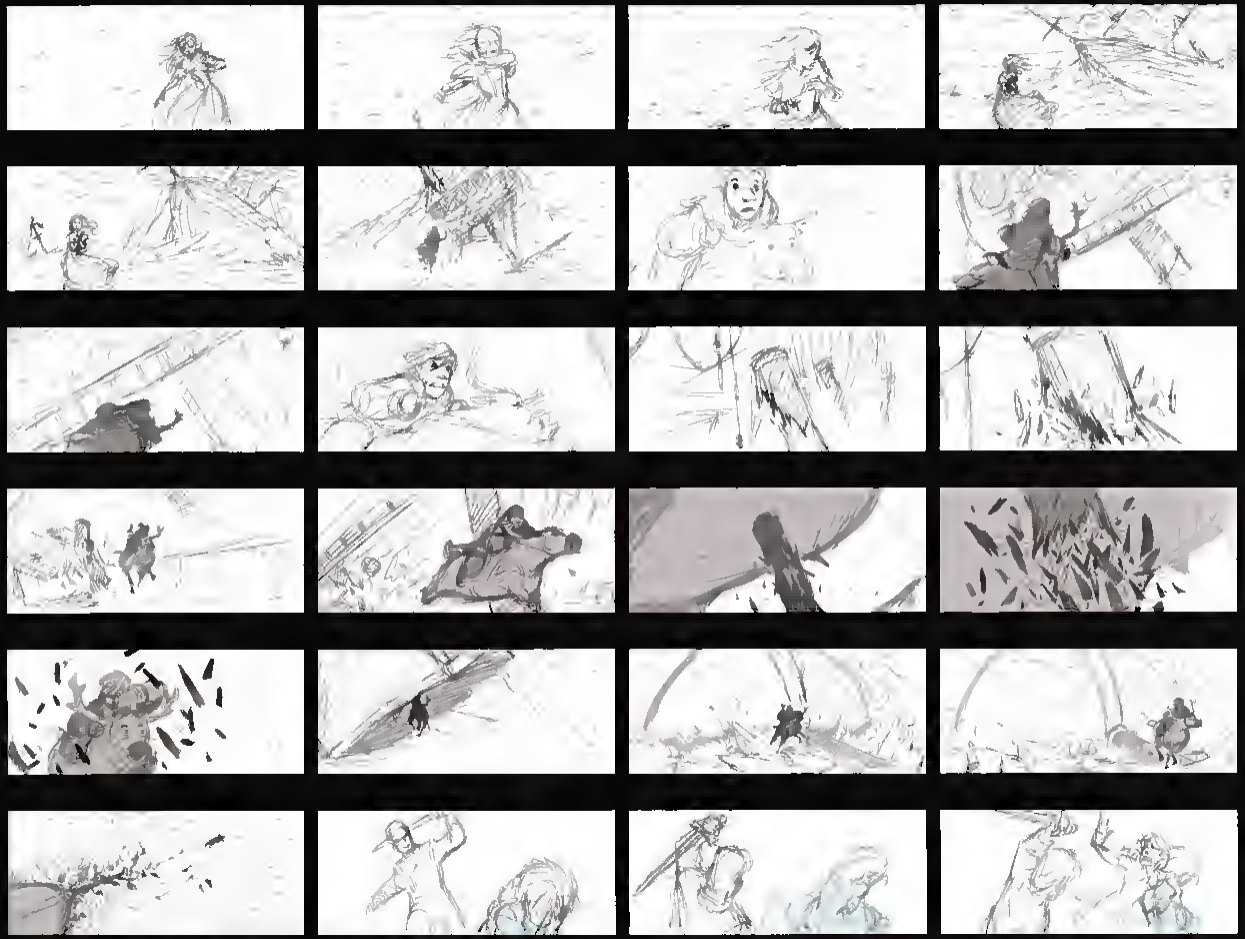
Nicole Mitchell | Digital

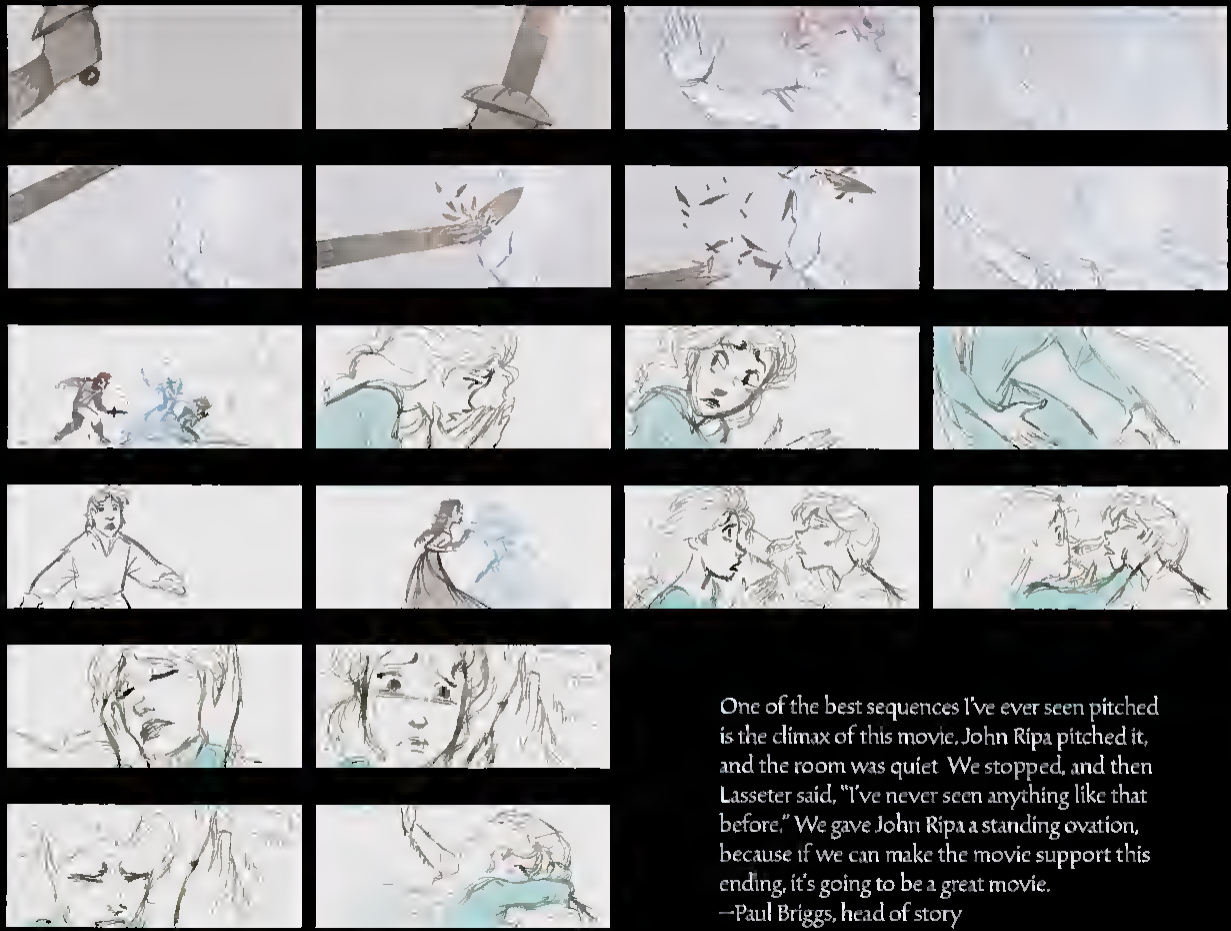
Nicole Mitchell | Digital

Nicole Mitchell did these sketches of these roly-poly trolls covered in moss and mushrooms They were so appealing and really felt like fjord rocks come to life Seeing them we knew we'd found our trolls
—Chris Buck, director

Paul Briggs | Digital

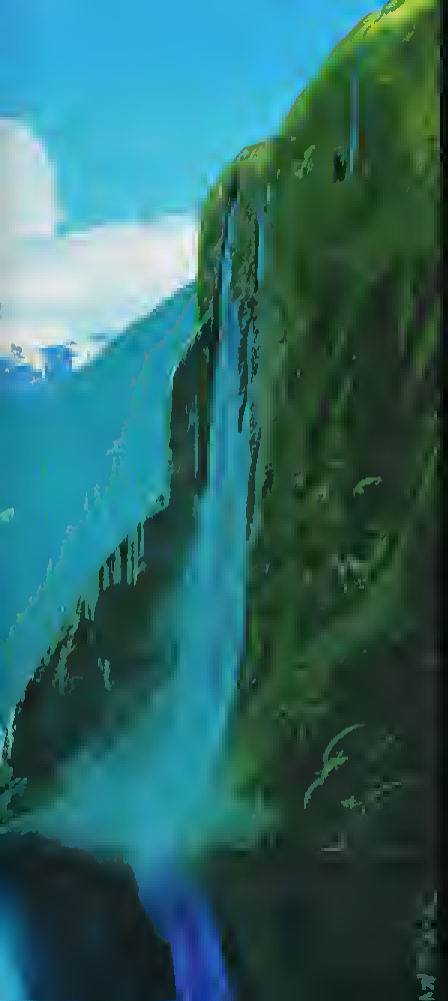
Sequence 33.0 — Anna's Choice





John Ripa | Digital

One of the best sequences I've ever seen pitched is the climax of this movie. John Ripa pitched it, and the room was quiet. We stopped, and then Lasseter said, "I've never seen anything like that before." We gave John Ripa a standing ovation, because if we can make the movie support this ending, it's going to be a great movie.
—Paul Briggs, head of story



CHAPTER 1

CORONATION

One of the first people I recruited was Michael Giaimo. I wanted to do something very strong and shape-oriented. I knew Mike's amazing sense of shape and design would be great to take to CG level. I wanted somebody who pushes the boundaries on both color and shape. If you don't push those boundaries in CG, the results can look too realistic. You don't feel you've caricatured it.
—Chris Buck, director

All of Arendelle eagerly awaited the coronation of Princess Elsa. Inside the castle, preparations were underway for the reception of foreign ambassadors and formal banquets. In the town, people were planning celebrations and buying delicacies. Dresses were being fitted, medals were being polished, entertainers were rehearsing. The entire kingdom was in motion.

Director Chris Buck knew he wanted to use more stylized designs in the tradition of *101 Dalmatians*, *Sleeping Beauty*, the classic Disney Little Golden Books, and midcentury American design. No one had done more to popularize that style than Michael Giaimo, both as an artist and a teacher. He, Buck, and John Lasseter were old friends, going back to their student days at CalArts.

"Michael Giaimo's sense of color and design are just exquisite. I thought it was an inspired choice to get him back to Disney," says Lasseter. "The mark of a great production designer is he creates preproduction art that inspires ideas the storytellers would not have had without it. The preproduction work inspired me: I kept looking at it and thinking this would be an amazing world to do as a computer-animated film."

When Buck approached him about working on the film, Giaimo's reaction was "a little caution mixed with burning desire." He insisted on doing a painting, testing some design elements and color theory, which "Chris responded really well to."

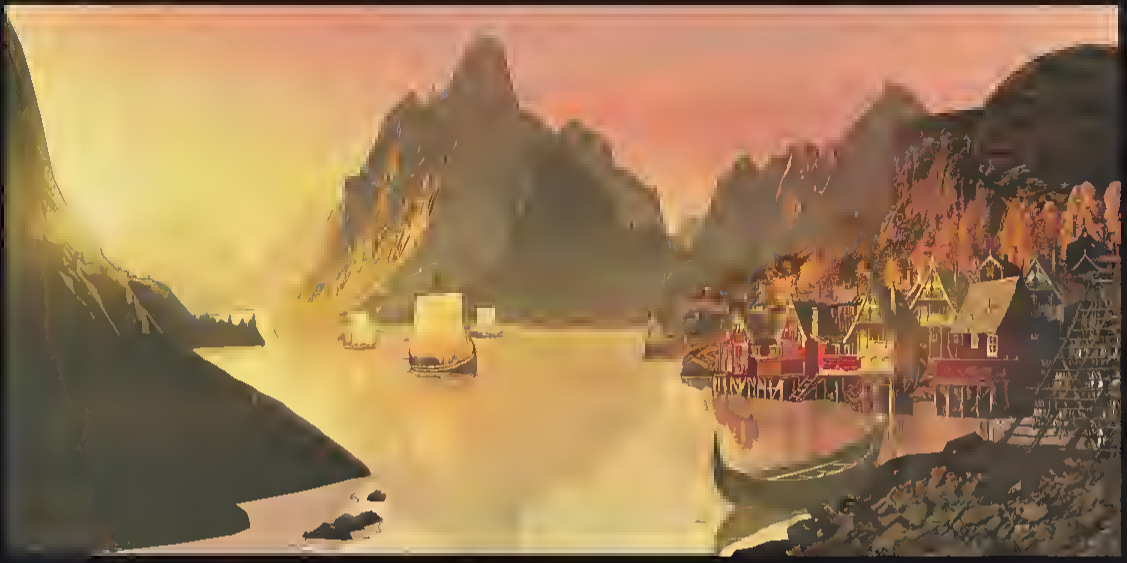
"I thought this would be a great opportunity to create a beautiful environment as well as a stunning CG (computer graphics) costume film where the design concepts of the environment and characters talk to each other and share a mutual design language," Giaimo continues. "I found this potential to be one of the most intriguing aspects of *Frozen*. When I started down that road I was told that this level of complexity and attention to detail from costume to character had never been done before in a CG film, but everyone was game. Sometimes it's good to be a little naïve!"

Early in the production, it was decided that Arendelle would be based on Scandinavian designs, as *Sleeping Beauty* had been inspired by French illuminated manuscripts. Giaimo, along with assistant art director Lisa Keene, production designer David Womersley, and some of the other artists, made a trip to Solvang, the Danish village in Central California. After meeting with historians who explained the specificity of Scandinavian cultures, they realized they couldn't pick and choose among those proud individual traditions, and they decided to focus on Norway.

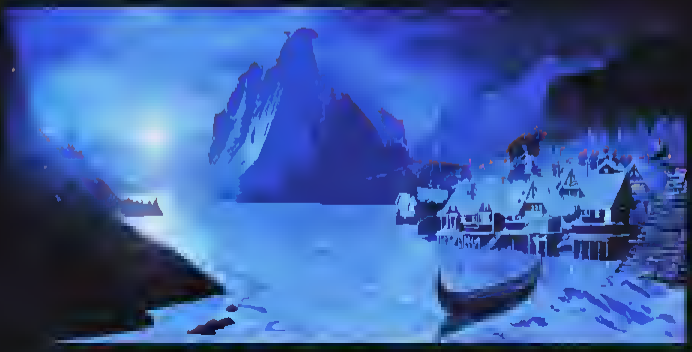
"I always insist on doing tremendous amounts of research, and part of it is visual research," states Lasseter. "A group of artists went to Norway and came back with beautiful imagery."

Mohit Kallianpur | Photograph

Geirangerfjord, Norway



David Womersley | Digital



David Womersley | Digital

David Womersley has done such a beautiful job of realizing this kingdom; it's pushed, and yet it's beautiful. As much as I love design, I never want design just for design's sake. David understands how to push, but only as far as what's reasonable in a believable world.
—Michael Giaimo, art director

We noticed in the older parts of Balestrand nothing is parallel. Over the decades, things have settled. We're bringing that into our movie: Everything in the town isn't perfectly symmetrical, which works really well with the caricatured characters.
—Mohit Kallianpur, director of look and lighting

Balestrand, Norway

Mohit Kallianpur | Photograph

James Finch | Digital

James Finch | Digital

Michael Giaimo | Digital

There are things you can't get out of a book or off Google or wherever you get your reference. The things we look for are not the things you'd find anyway—a picture of a crossbeam, how a structure was built; there were no modern tools, so it's all hand-cut wood. How things are built, how they look, how they're constructed, how they're painted.
—Jim Finn, visual development artist

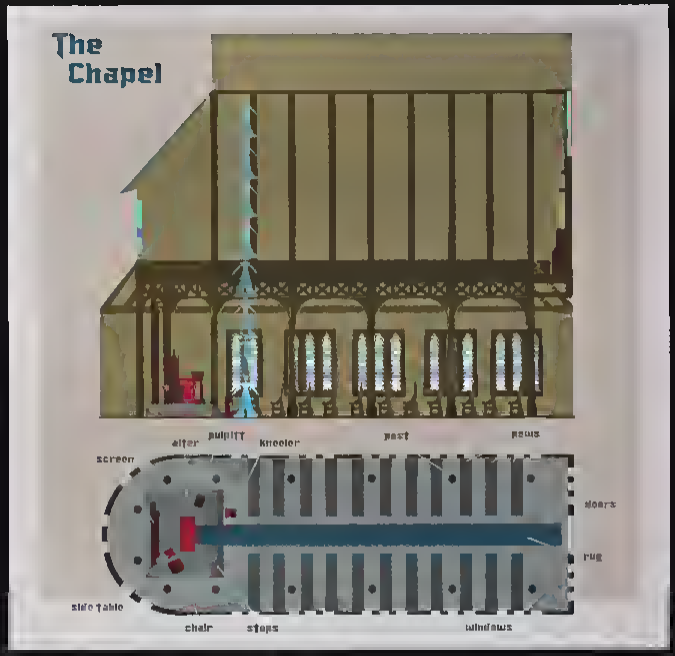
Sara Cambalisty, Nenja Denacina | Digital

David Wemersley | Photograph

Michael Giaimo | Photograph

The charming Norwegian village of Balestrand provided not only the inspiration for the chapel where Elsa is coronated but also provided many architectural motifs for the Arendelle Kingdom as well

Michael Giaimo | Photograph



Arendelle village is based on the "dragonstil" style of architecture, which was a late nineteenth century nostalgic take, blending the Victorian aesthetic with Norwegian rustic design.

Jim Finn | Digital

Jim Finn | Digital

The artists were particularly struck by the Norwegian stave churches, flamboyant wooden structures that date back to the twelfth century. Giaimo praises Womersley's design for the castle of Arendelle, which "looks like a castle, but its roof line and detailing riff on a stave church. No one else could have pushed the shapes inspired by the stave churches the way David did. When I saw the castle taking shape, I knew how far we could push the characters and marry them to this world."

Michael Giaimo | Photograph

Borgund Stave Church, Norway

David Womersley | Photograph

David Womersley | Digital

Originally the castle of Arendelle was to be designed using only selected motifs from the stave church John Lasseter encouraged the artists to "go all the way" and celebrate holistically the unique qualities of these grand structures

David Womersley | Digital

Brittney Lee | Digital

Michael Giaimo, our art director, is a very thorough thinker; I have never seen an art director who thinks holistically about the whole movie. It all comes from character, but he believes environment is related to character, characters are related to costumes—it's all of a piece.
—Peter Del Vecho, producer

Bill Perkins | Digital

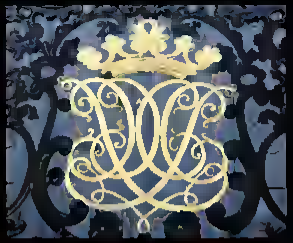
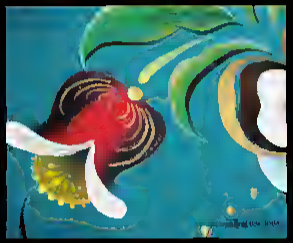
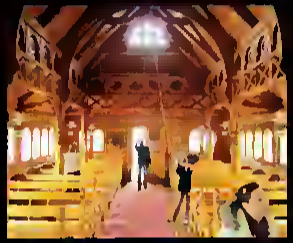
It feels like Mike, David, and Lisa are completely on the same page. They won't always agree, but they always come to a consensus of what's best for the movie. It's really encouraging to go into a meeting with a question and walk out with a clear, defined answer. We don't have time for wishy-washy answers.
—Jon Krummel, environment modeling supervisor

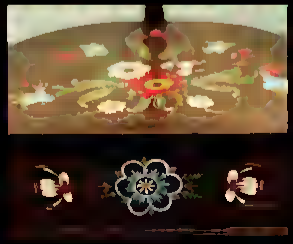
Mac George | Digital

The snow globe Anna is holding was originally a gift from Hans, presented to her post-coronation. The concept was dropped for narrative streamlining.
Victoria Ying | Digital

Jim Finn | Digital

The dressing room was originally conceived as a room between Anna and Elsa's bedrooms. Both sisters were to have shared this room.
Victoria Ying | Digital



"There was a pre-Norway film and a post-Norway film," says production designer David Womersley. "We were all struck by how much pattern there was. Thare were textures end shapas that were dafinitely Norwegien—in the carving, in the furniture, in the buildings, in everything. We went to bring thet bold Norwegian patterning into our worid, but control it, so it doesn't overwhelm the cherecters."

"Norwey wes e bonding experience: I don't think I've ever been on a trip with more ioeded into it," agrees Keana. "We needed to find out what wes whet, what tha time period was, what did the costuming look like, how did peopia live. Thare's only so much you can get off tha Intarnet. You do your best, but until you get thare end see it end talk to people, you don't understand it."

"With our journey to Norway, I discovered a particuiarly Norwegian iook, in folk art, decoretive erts, erchitecture," Giaimo concludes. "It's aiegant and axtremaly orgenized, and patternad. It's piayfui but formal. I said, 'We cen meke it more piayful, but it hes to be in e very petterned way.'"

Ona treditionai sourca of pattarning is rosemeling (from the Norwegien for "decoretive peinting"), en intricata style of omementation that arose in aastern Norway in tha mid-eighteenth century. As it spread and geined popularity es e folk art, local styles end verietions prolifereted. The Disney ertists used it to decoreta both costumes and sets

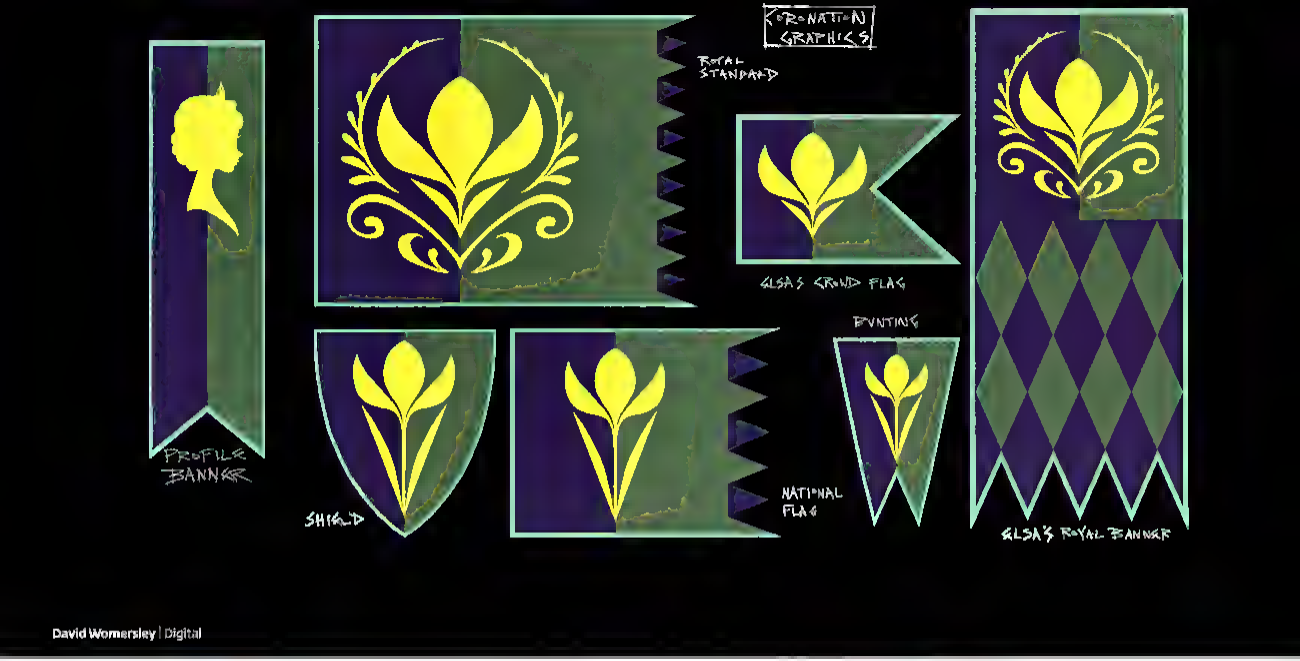
"Norwegien rosemeling is extremely compiex and ornata," says Giaimo. "I realized I'd naed to homogeniza tha huas end make it our own. John Lasseter said he loved the rosemeling concept, but, 'Meke sure if you apply it to cherecters, they don't iook iike waiking doiiies.' I took thet to heart to create e look thet's fresh end lively, but not too dense."

"Whan you're working with rosemeling, the negetive space is just es important as the positive space. All the little decorativa stuff can gat very congested," cautions Keene. "We have a bedroom with rosemeling on white walls. Becausa it's colorful and pretty, we have to be carefui to keep tha vaiuas down and tha coiors harmonizing."

David Womersley, Brittney Lee | Digital

James Finch | Digital

You have to make sure that the wallpaper doesn't come in front of the character. It's a lot of lighting and use of shadow, taking hues back. We'll be dialing all kinds of things, the light, the look, the way in which certain objects are decorated, the textures and patterns. You have so many dials that you can work with to make everything harmonize.
—David Womersley, production designer



David Womersley | Digital

Mac George | Digital

Mac George | Digital

The official crest of Arendelle is the crocus a symbol of rebirth and spring In colder regions it bursts forth while snow is still on the ground The flower appears on everything from banners to capes uniforms wallpaper and jewelry

Mac George | Digital

Anna

"Anna's ona of those charactars that doesn't give up. We all need someone like her in aur lives, someone who's willing to stend besida you and make sacrifices for you," explains head of story Paul Briggs. "That's what attracted ma to this movia: A character who is willing to stand besida you and stand up for what's right. Her sister was born with a condition that's shaped a world where Anna doesn't belong."

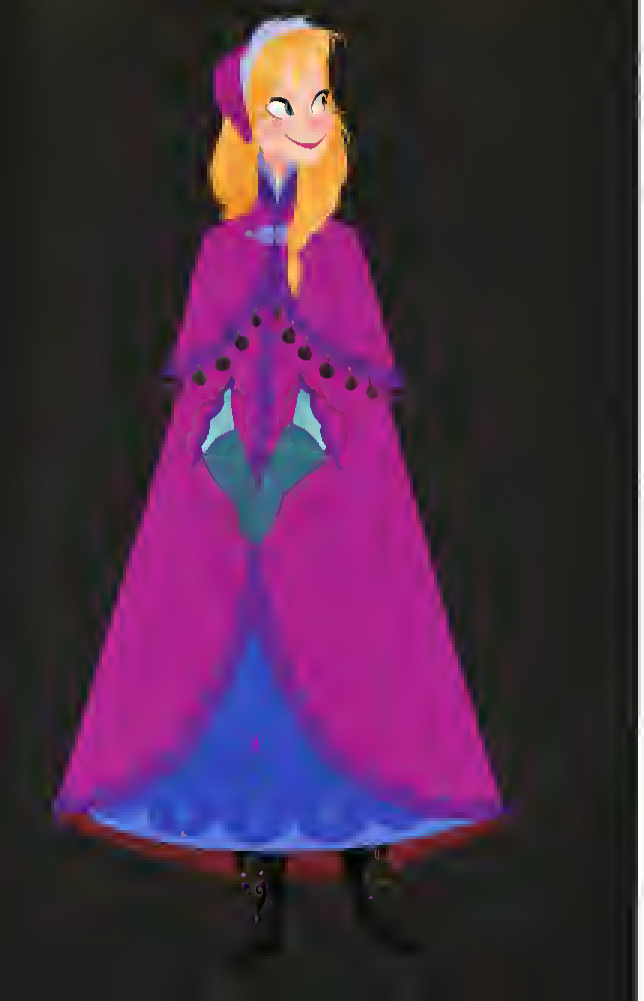
Each of tha lead characters presented spacial challangas and opportunities for tha artists. Anna is tha amotional haart of tha story; sha continues a tradition of Disney fairy tale heroines stretching back to Snow White. Story artist Normand Lemay camments, "Usually in movies where somaona has a spacial power, it's your main charactar. Tha challanga was to teke Anna, tha sister who thinks sha isn't spacial or interesting, and make her the center of the story. It was a real challange compared to *Tangled*, where there the heroina had somathing supernatural to offer."

"Backy did soma of tha best Rapunzel animation on *Tangled*," Unten adds. "But what was so cool seeing the test she did of Anna—it was not Rapunzel. She moved in a specific way. Backy found Anna in tha quick movemants, tha quirkinass."

"Chris had a very strong opinion about tha shape of Anna's eyes and how best to achieve it," says supervising animator Mark Henn. "That slightly angled almond eye looks great in a drawing, but it sometimes doesn't work right mechanically. You can make chaats easily in a drawing, but in CG, you get that little extra shape over the pupils, and right away the character starts to look cross-eyed. So they have to compensate for it, and then figure out how to get tha lids to closa in a convincing way. Again, it's much aasiar to do in a drawing."

Giaimo is an extremely analytical designer, and when he imagined the costumes for the characters, he applied rigorous aesthetic standards. "For Anna's traval outfit, I wantad somathing that would be really striking and bold, yet elegant," ha bagins. "Sha's a princass, and that really blue skirt says royalty, as does the magenta cape. I thought those two colors would be really striking, because there's a rich saturation to both of tham. But thare's always a little bit of black on the characters: it helps anchor the saturation, so it doesn't float into the atmosphere."

Bill Schwab | Digital



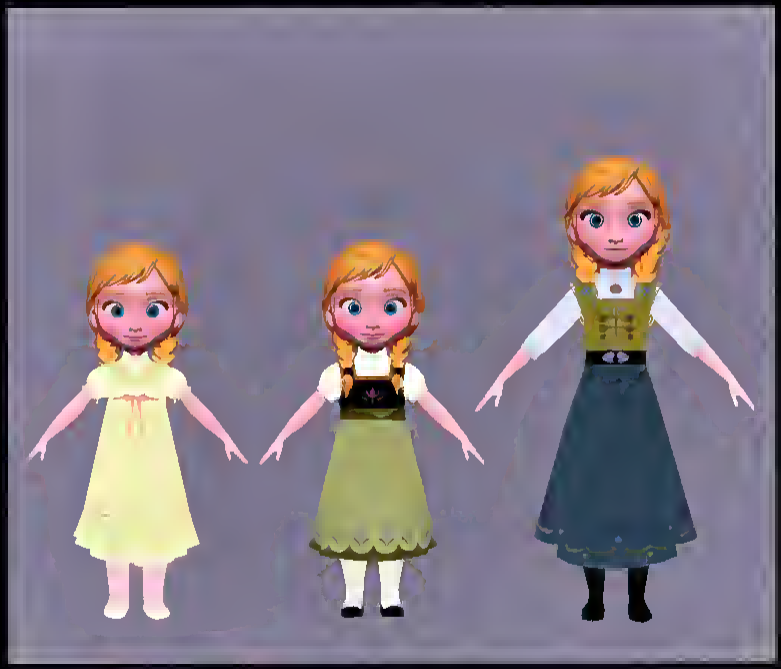
Michael Giaimo | Digital

Michael Giaimo | Digital

The rich saturated jewel-like hues of early costume designs were retained for the final Anna pallet.

Claire Keane | Gouache

Bill Schwab | Digital



Brittney Lee | Digital

Brittney Lee | Digital

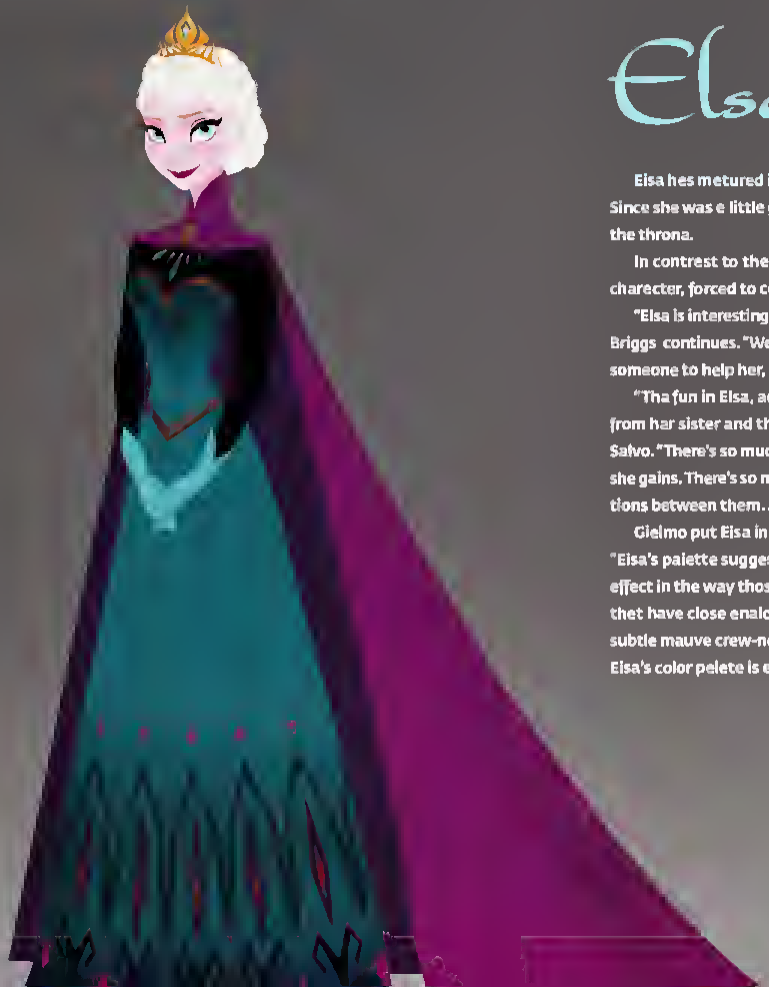
To reflect her sunny nature, Anna's color palette during her growing years is kept on the warm side. Grayed yellow greens, ochre, and olive dominate

Every outfit you see represents a tremendous amount of work from many artists to construct, tailor, and simulate each piece of clothing
—Frank Hanner, character CG supervisor

Jean Gillmore | Digital

Jean Gillmore | Digital

Brittney Lee | Digital



Elsa

Elsa has matured into a beauty whose distant mien heightens her loveliness. Since she was a little girl, Elsa has been groomed for the day she would assume the throne.

In contrast to the open, straightforward Anna, Elsa begins as a repressed character, forced to conceal who she really is.

"Elsa is interesting because she could be perceived as the villain, but she's not," Briggs continues. "We all have something we're hiding. Elsa's afraid, and she needs someone to help her, stand beside her. This a story with two protagonists."

"The fun in Elsa, acting-wise, is you have a character that's been hiding things from her sister and the people in the kingdom," says head of animation Lino Di Salvo. "There's so much fun in the magic, the things she creates, and the freedom she gains. There's so much depth in the characters, and you have emotional connections between them. As an animator, I'm not sure what else you could ask for."

Gialmo put Elsa in a triangular aqua cape decorated with snowflake patterns. "Elsa's palette suggests a beautiful ice crystal," he explains. "She is a walking effect in the way those colors reflect and refract. I'm attracted to color schemes that have close analogous relationships. It creates a striking effect. With her subtle mauve crew-neck top, paired with her icy blue cape and warm blue dress, Elsa's color palette is exquisitely harmonious."

The elaborate costumes on Elsa and Anna were enormous challenges on this film in order to sustain it's appeal. We had dresses that trekked through deep snow, clothing that survived a chase and capes that endured a winter storm. All in the spirit of supporting and embellishing the performances of the two main characters and keeping the believability of how their costumes would react in the various circumstances.
—Mark Empey, technical animation supervisor

Bill Schwab | Digital

Victoria Ying | Digital

Jean Gillmore | Digital

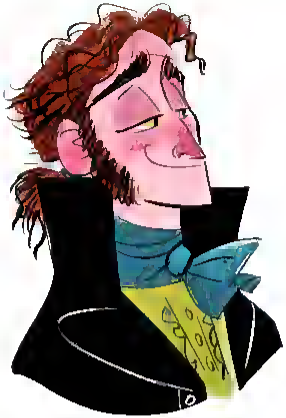
Early costume designs (left) placed the story in the late 1700s. For a more classical fairy tale look, it was decided to place the narrative in the 1840s.

Hans

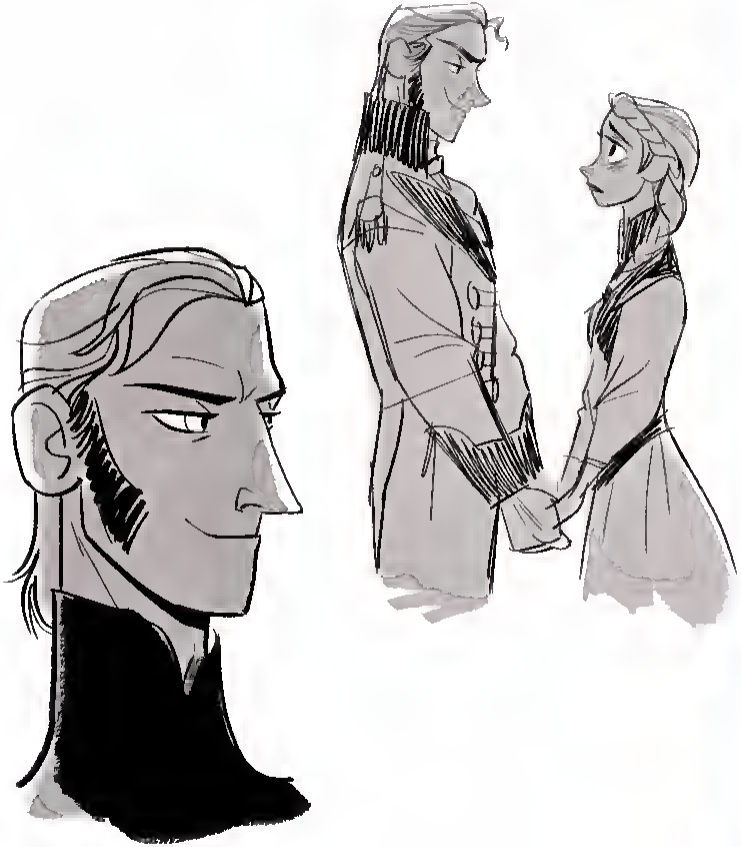
Usually, the hero or heroine of a film undergoes a transformation: Aladdin goes from street rat to prince; Cinderella begins as a de facto servant and ends up a princess. In *Frozen*, Hans goes from courtly charmer to power hungry villain.

When he appears during the coronation sequence, Hans embodies courtly charm. His polished looks and manners immediately win Anna's attention. "Hans is this handsome, dashing character. You want the audience to fall in love with him and the relationship he could have with Anna," says supervising animator Hyrum Osmond. "Then we've got to turn him around toward the end and make it a huge surprise. The crew is having fun with the contrasts between the character's two personalities."

"After they screened the film, a lot of the animators said, 'I want to animate Hans,'" Di Salvo chuckles. "He begins as the knight in shining armor, and the audience thinks, 'Anna's going to end up with this guy. He's perfect.' But he's a chameleon who adapts to any environment to make the other characters comfortable. Then you have that awesome emotional turn at the end."



The biggest challenge designing Hans was to make sure we covered all aspects of his personality while never fully tipping our hand to the audience.
—Bill Schwab, character design supervisor



Bill Schwab | Digital

Hans's costume design was inspired by the traditional short waisted buriad. The black lapels and collar gives the design a heroic strength. Epaulets and an aiguillette were added to give him a princely bearing.

Bill Schwab | Digital

Bill Schwab | Digital

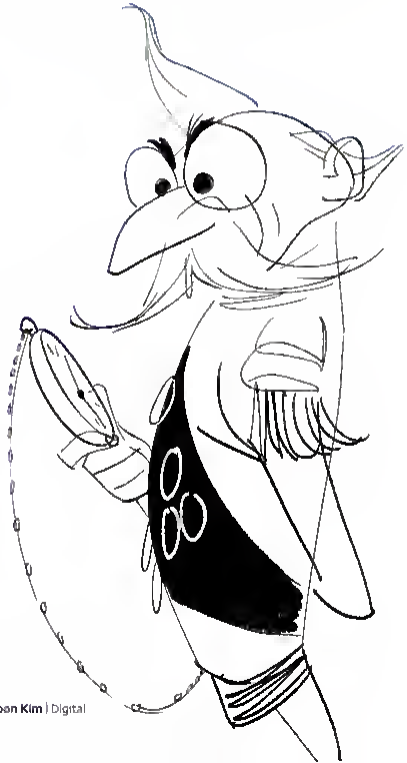
The Duke of Weselton

Shiyoon Kim | Digital

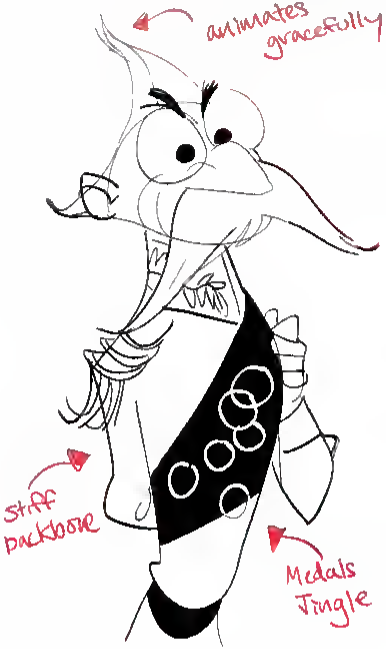
Shiyoon Kim | Digital

Shiyoon Kim | Digital

Jean Gilimore | Digital



Shiyoon Kim | Digital



Shiyoon Kim | Digital

Shiyoon Kim | Digital

The duke's design was originally intended for a benign royal handler to Anna and Elsa after their parents had died. As the story progressed, a design was needed for a villainous character who provided a red herring to the plot line. The old royal handler design proved to be a perfect fit.

I wanted to portray a fussy royal. Thus came the wide thick circular glasses, the extraordinary amount of medals on his chest, the strait "proper" posture of his torso, and his small stature compared to Anna and Elsa who even visually looked dominant over him.
—Shiyoon Kim, visual development artist

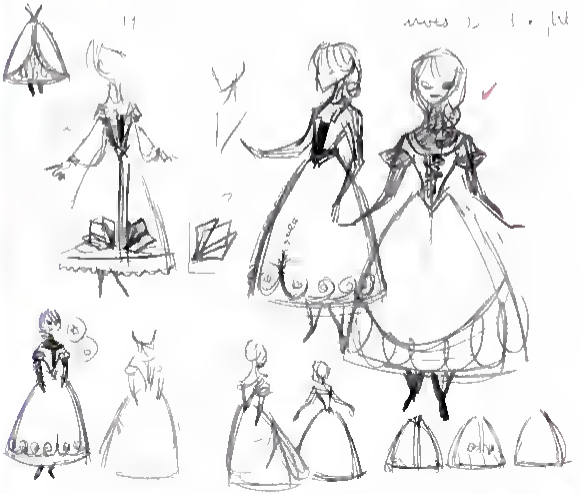
Costume Design

Bill Schwab | Digital

The patterns on Elsa's cape and the rosemaling on Anna, Hans, and Kirstoff's clothes would be a nightmare in drawn animation. The "pencil mileage" needed for so many details would probably break the budget. And keeping the patterns in register so they didn't seem to crawl over the characters would rival keeping all the spots in place on the cast of *101 Dalmatians*. In CG, it's easy technically, but demands careful planning.

"We looked at a lot of reference that had very complex rosemaling patterns," says visual development artist Victoria Ying. "We had to figure out a way to translate it into a more graphic, cartoony world. It was a difficult translation, because you want to keep all characteristics but still make it feel caricatured and readable."

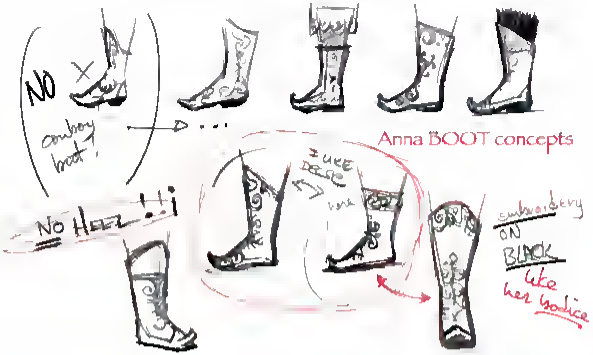
Development artist Jean Gillmore, who worked on costumes and compares her job to "running a virtual wardrobe department," continues: "They have to be able to construct the outfits in the modeling. Then there's the *simming* (short for simulating, creating believable texture and movement), which is the fabrics. How do they move? What are the actual materials, down to buttons, trim, and stitching? I don't know if this level of detail has ever been done on an animated picture."



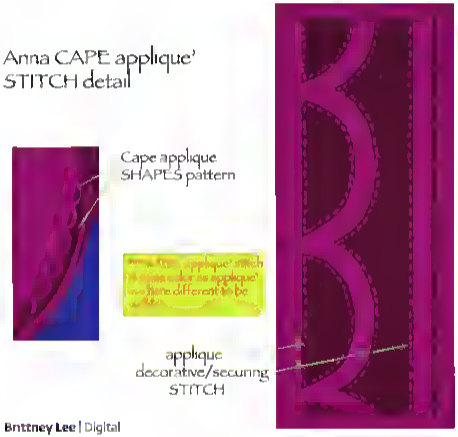
Jean Gillmore | Pencil

"We're bringing out the fine details in the embroidered clothing. If you look closely you can almost see individual stitches," Mohit Kallianpur adds. "We're trying to mimic the properties of different kinds of materials. If it's silk, is it a rougher, raw silk or a shinier, smoother silk? That's going to give us a really rich look."

The artist never lost sight of the fact that the costumes, however intricate, had to support the characters and the story. Ying says, "Whenever Mike would do a color pass for us on the costumes, his choices were bold and the shapes were completely readable. No matter how much detail you put on them, it would never overwhelm that basic graphic shape."



Jean Gillmore | Pencil



Brittney Lee | Digital

Brittney Lee | Digital

Anna's TRAVELING CLOAK in movement

Jean Gillmore | Digital

The color styling of Eyvind Earle (*Sleeping Beauty* 1959) provided great inspiration for *Frozen* particularly with the costume palette Deep rich analogous hues and subtle temperature shifts balanced with black helped create a distinctive, shape-based look

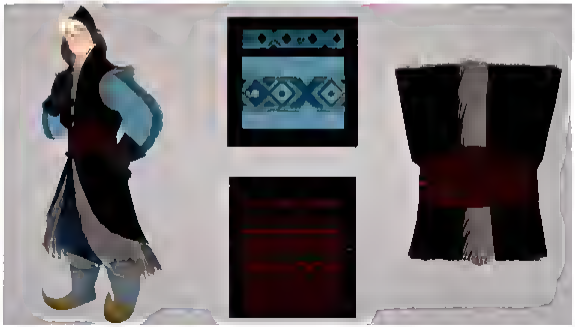
Michael Giaimo | Digital

Brittney Lee | Digital

In keeping with the traditional Norwegian aesthetic, most of our fabric in *Frozen* is wool. For accents we used velvet, linen, and silk. Since wool is not highly reflective, it provided a great base for saturation. When it came to finessing the details and rosemaling of *Frozen* costumes, Brittney Lee's keen eye and deft touch was essential.
—Michael Giaimo, art director

Brittney Lee | Digital

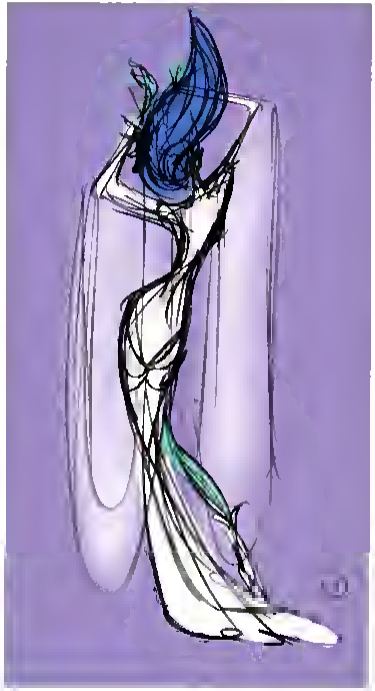
Brittney Lee | Digital



Brittney Lee | Digital

Michael Giaimo, Jean Gillmore | Digital

Jean Gillmore | Digital



Jean Gillmore | Digital

Brittney Lee | Digital

Two things I knew from the start about *Frozen* It was going to be a costume film and I was going to seek the help of Jean Gillmore to help me realize it to its fullest potential
—Michael Giaimo, art director

An early version of the Queen's costume design shows a heavy Russian influence. When it was decided to bend the film visually towards the Norwegian aesthetic, the design was streamlined using the Bunad—The traditional Norwegian style of Folkware—as a touchstone for this and all costumes in the film
Jean Gillmore, Shiyoon Kim | Digital

Brittney Lee | Digital

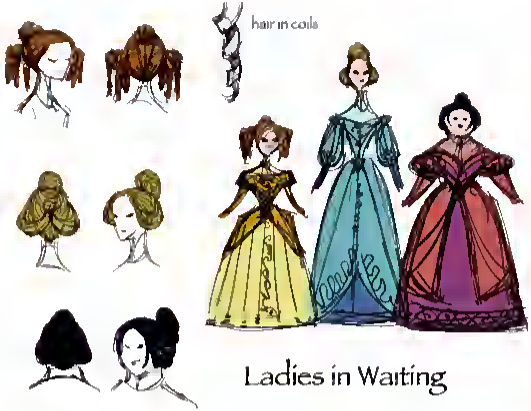
Victoria Ying | Digital

Victoria Ying | Digital

Jean Gillmore | Digital

Jean Gillmore | Pencil Digital

Usually we want to draw the eye to our characters, the rich colors help us Those same colors help keep the audience from getting confused in crowd scenes It can be a challenge when we put several colors next to each other what worked well in isolation now is an issue But it's nice to have something strong to start off with, and then adjust it as needed
—Jason MacLeod, lighting supervisor



Jean Gillmore | Digital

Crowds in *Frozen* have been unique, in that color has played such a crucial role, tantamount to form. Using Michael Giaimo's art direction, the crowds helped to further shape and bring more life to the environments.
—Moe El-Ali, crowd lead

Brittney Lee | Digital

Brittney Lee, Bill Schwab | Digital

Brittney Lee | Digital